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EPA

FACT SHEET: COMPLYING WITH THE SECTION 608 PROHIBITION ON VENTING OF SUBSTITUTE REFRIGERANTS

Introduction

Effective November 15, 1995, section 608 of the Clean Air Act (the Act) prohibits individuals from knowingly venting substitutes for CFC and HCFC refrigerants during the maintenance, service, repair and disposal of air-conditioning and refrigeration equipment. This fact sheet explains how EPA plans to apply this prohibition to the different substitute refrigerants and to the various types of air-conditioning and refrigeration equipment.

Schedule and Effective Dates

EPA will be proposing a regulation later this year that will request comment on how EPA plans to extend the recycling program for CFC and HCFC refrigerants, including required practices, safe disposal requirements, and certification programs for equipment, reclaimers, and technicians, to substitute refrigerants. After a 30- to 45-day comment period, EPA will address comments and issue the final regulation. As the proposal has not yet been issued, this regulation will not become final by November 15, 1995, and neither will its requirements. However, the prohibition on venting of substitute refrigerants, which is part of the Act itself, still goes into effect on November 15, 1995. EPA does not have the authority to postpone this effective date.

Covered Substitutes

Section 608 prohibits the venting of substitute refrigerants during the maintenance, service, repair, and disposal of air conditioning and refrigeration equipment unless EPA determines that the release of the substitute does not pose a threat to the environment. EPA is considering a number of factors in making this determination, including the substitute's toxicity, flammability, long-term environmental impact (such as global warming potential), and regulation under other authorities (such as OSHA or other EPA requirements). Based on these considerations, EPA is planning to **cover** the following substitute refrigerants under the venting prohibition of section 608:

- hydrofluorocarbons (HFCs)
- perfluorinated compounds (PFCs)

EPA is planning to **exempt** the following refrigerants from the venting prohibition of section 608:

- ammonia
- hydrocarbons (which are approved for use only in industrial process refrigeration)
- chlorine (which is approved for use only in industrial process refrigeration)
- CO_2 and water

This planned exemption applies only to applications of these refrigerants that have been approved under EPA's Significant New Alternatives Policy (SNAP) Program. The applicability of recycling requirements to these substitutes in other applications (e.g., hydrocarbons in household refrigerators) will be considered when the substitutes in those applications are submitted for SNAP review.

Note that it may be dangerous to use CFC and HCFC recovery equipment to recover ammonia, hydrocarbons, or chlorine. However, users of hydrocarbon, ammonia, and pure chlorine refrigerants must continue to comply with all other applicable federal, state, and local restrictions on emissions of these substances.

Permitted Releases

As is the case for CFC and HCFC refrigerants, only four types of releases of HFCs and PFCs are permitted under the prohibition:

1. "De minimis" quantities of refrigerant released in the course of making good faith attempts to recapture and recycle or safely dispose of refrigerant.

2. Refrigerants emitted in the course of normal operation of air-conditioning and refrigeration equipment such as from mechanical purging and leaks.

3. Releases of HFCs and PFCs that are not used as refrigerants (note that heat transfer fluids are considered refrigerants).

4. Small releases of refrigerant that result from purging hoses or from connecting or disconnecting hoses to charge or service appliances.

More information on permitted releases may be found in the “Final Rule Summary: Complying with the Section 608 Refrigerant Recycling Rule”, which can be obtained from the Hotline at 1-800-296-1 996.

Recycling and Recovery Equipment

Recycling or recovery equipment used to comply with the prohibition on venting of HFCs does not have to meet any particular standards at this time. However, persons purchasing equipment to comply with the prohibition on venting may wish to consider the standards that such equipment would have to meet under the proposed rule. EPA plans to propose standards for HFC recovery equipment that are very similar to the standards for CFC and HCFC equipment. The standards would depend upon the saturation pressure of the refrigerant, the size of appliance in which it is used, and the date of manufacture of the recovery equipment. (Note that the date of manufacture that would separate the stricter from the more lenient standards would probably remain November 15, 1993.) These standards are described in Table 1 and Table 2. (Standards for equipment used to recover refrigerant from disposed motor-vehicle air conditioners (MVACs), MVAC-like appliances (such as air conditioners used in construction and farm vehicles), and small appliances are discussed below in the Safe Disposal section.) EPA also plans to request comment on establishing a new saturation pressure category between the high- and very-high pressure categories; appliances

in this category might be subject to the same evacuation requirements as HCFC-22 appliances.

Use of CFC and HCFC recovery equipment.

Manufacturers of recycling and recovery equipment have stated that most

TABLE 1
PLANNED LEVELS OF EVACUATION FOR APPLIANCES
EXCEPT FOR SMALL APPLIANCES, MVACS, AND MVAC-LIKE APPLIANCES

Type of Appliance	Inches of Mercury Vacuum* Using Equipment Manufactured:	
	Before Nov. 15, 1993	On or after Nov. 15, 1993
High-pressure appliance** normally containing less than 200 pounds of refrigerant (R134a, R404A, R407A, B and C, R410A and B, R507)	4	10
Other high-pressure appliance** normally containing 200 pounds of more of refrigerant (R134a, R404A, R407A, B and C, R410A and B, R507)	4	15
Very High Pressure Appliance (R23, R508A and B)	0	0

* Relative to standard atmospheric pressure of 29.9" Hg.
** Or isolated component of such an appliance

recovery and recycling equipment designed for use with **multiple** CFC or HCFC refrigerants (e.g., 12, 22, 500, and 502) can be adapted for use with HFC and PFC refrigerants with similar saturation pressures. Thus, EPA plans to propose allowing technicians to recover these materials using recovery or recycling equipment designed for use with at least two CFC or HCFC refrigerants of similar saturation pressure. This equipment would have to meet the standards discussed in the preceding paragraph, and if it was manufactured on or after November 15, 1993, it would have to have been certified by an EPA-approved third party certification program (ARI or UL) for at least two refrigerants with saturation pressures similar to the saturation pressure of the refrigerant(s) with which the equipment is to be used.

In some cases, manufacturers recommend changing the lubricant in the recycling or recovery equipment from mineral oil to polyol ester lubricant (POE). In other cases, no lubricant change is necessary.

Individuals who intend to use their existing CFC or HCFC recovery equipment with HFCs should **contact the manufacturer** to ascertain what changes, if any, need to be made to the equipment.

Safe Disposal Requirements

Like HFC recovery equipment used during servicing, HFC recovery equipment used during disposal of appliances does not have to meet any particular standards at this time. However, persons purchasing equipment to comply with the prohibition on venting may wish to consider the standards that such equipment would have to meet under the proposed rule.

Recovery Requirements for Disposal of Small Appliances

Under the planned proposal, recovery equipment used to recover HFC refrigerant from small appliances prior to their final disposal would have to meet the same performance standards as recovery equipment used prior to servicing (see Table 2), but it would not have to be tested by a laboratory.

TABLE 2
PLANNED LEVELS OF EVACUATION FOR SMALL APPLIANCES

Status of Compressor	Percentage Refrigerant Recovered* Using Equipment Manufactured:	
	Before Nov. 15, 1993	On or after Nov. 15, 1993
Operational	80	90
Non-operational	80	90

*Technicians may also satisfy recovery requirements by evacuating the small appliance to tour inches of mercury vacuum.

Recovery Requirements for Disposal of MVACs and MVAC-like Appliances

Under the planned proposal, recovery

equipment used to recover HFC refrigerant from MVACs and MVAC-like appliances prior to their final disposal would have to be able to draw 102 mm (four inches) of vacuum. (This is the same as the standard for CFC equipment.) In addition, either the equipment would have to be designed to handle multiple refrigerants, or it would have to be dedicated to recovery of a single refrigerant. Recover-only equipment would not have to be tested by a laboratory; however, recycling equipment would have to be tested under the 609 equipment certification program.

Disposition of Recovered Refrigerants

HFC refrigerants do not have to meet any purity requirements at this time. However, EPA recommends that HFCs recovered from appliances other than MVACs and MVAC-like appliances be reclaimed to the ARI 700 standard of purity by a certified reclaimer. EPA recommends that HFC refrigerant that is removed from one MVAC or MVAC-like

appliance and placed into another be either (1) reclaimed by a certified reclaimer, or (2) recycled by a 609-certified technician through 609-certified equipment.

EPA is in the process of proposing a rule under section 609 of the Clean Air Act that would clarify that automotive disposal facility owners and operators (auto recyclers) may (1) sell refrigerant recovered from MVACs or MVAC-like appliances to section 609 certified technicians, or (2) have section 609 certified technicians recover the refrigerant directly. Both the facility owner/operator and the technician would have to use recovery and/or recycling equipment that met the standards outlined above. In addition, facility owners/operators could recover the refrigerant and sell it to a certified reclaimer, as was always clearly permitted. **This clarification would apply to all refrigerants suitable for use in MVACs, including R12 and R134a**.

For Further Information

For further information concerning regulations related to stratospheric ozone protection, please call the Stratospheric Ozone Information Hotline: 800-296-1996. The Hotline is open between 10:00 AM and 4:00 PM, Eastern Time.